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(54) Title: MOLECULAR MEMORY DEVICE

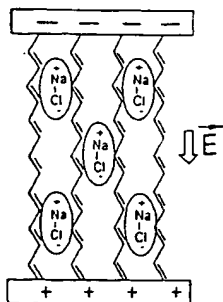


FIG. 1(a)

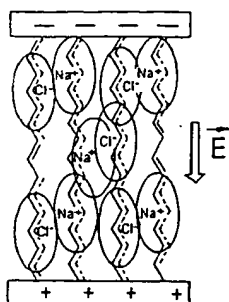


FIG. 1(b)

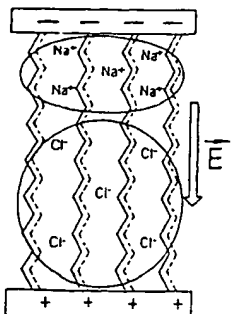


FIG. 1(c)

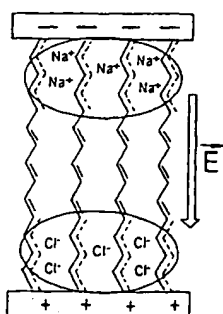


FIG. 1(d)

(57) Abstract: A novel memory cell is provided with an active region including a molecular system and ionic complexes distributed in the molecular system. A pair of write electrodes are arranged for writing information to the memory cell. The active region is responsive to an electric field applied between the pair of write electrodes for switching between an on state and an off state. The active region has a high impedance in the off and a low impedance in the on state. A pair of read electrodes is used to detect whether the active region is in the on state or in the off state to read the information from the memory cell. Read electrodes may be made of different materials having different work functions to reduce leakage current.

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A. CLASSIFICATION OF SUBJECT MATTER
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According to International Patent Classification (IPC) or to both national classification and IPC

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Minimum documentation searched (classification system followed by classification symbols)

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Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

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X	US 4 652 894 A (POEHLER JR THEODORE O ET AL) 24 March 1987 (1987-03-24) figures 1,3 column 3, line 20 -column 4, line 35 column 7; claims --- -/--	1-49

☒ Further documents are listed in the continuation of box C.

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INTERNATIONAL SEARCH REPORT

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Information on patent family members

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